

REMARKS

Claims 1-26 have been cancelled without prejudice. Claims 27 and 42 have been amended to define that the processing device is accessed remotely at a site separate from a train consist in the rail system. Claim 27-42 remain for consideration in this application.

Claim Rejections - 35 U.S.C. §103(a)

Claims 27, 33-39 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US Patent 5,477,941), and further in view of Clyne K. M. (WO01/18558) and Nelson (US Patent 5,236,063).

Independent claim 27 is directed to a liquid composition application system, comprising:

- i. a topological device comprising a global position system (GPS) for acquiring topological information of a rail system in real-time;
- ii. an applicator for application of the liquid composition; and
- iii. a processing device for receiving the topological information, and controlling the application of the liquid composition, wherein control of the application of the liquid composition is based on the topological information received by the processing device and wherein the processing device is accessed remotely at a site separate from a train consist in the rail system.

Applicants acknowledge Examiner's assertion that Kumar fails to explicitly disclose a topological device comprising a global position system (GPS) for acquiring topological information of a rail system in real-time; and that the processing device is accessed remotely at a site separate from a rail car or a train consist.

The Examiner suggests that Clyne K. M. discloses Methods and Apparatus for Measuring Navigational Parameter of a Locomotive comprising a topological device comprising a global position system (GPS) for acquiring topological information of a rail system in real-time (Page 6,

Line 24-Page 7, Line 8). The Office Action further states that Nelson discloses Rail Lubrication Device comprising the processing device is accessed remotely at a site separate from a rail car or a train consists (Column 4, Lines 35-39).

Applicants submit that Nelson is directed to a mobile unit positionable and driveable upon railroad tracks for application of a lubricant to the gauge surface of the track. There is no teaching within Nelson of a GPS system for acquiring topological information of a rail system in real time. Furthermore, there is no teaching in Nelson of a processing device that is accessed remotely at **a site separate from a train consist in the rail system**, as is defined in claim 27. The Examiner states that Nelson discloses that system information is obtained and processed remotely at a site separate from the rail car (column 4, lines 35-39). However, at column 4, lines 35-39 of Nelson it is disclosed that:

[t]he lubricant flow line 16a includes a shut off line restrictor 45 for controlling the amount of lubricant delivered from the pump 16 through line 16a. This restrictor 45 may be remotely controlled from the vehicle cab and may be automatically speed responsive.

Applicants submit that the restrictor of Nelson is not a processing device that receives topological information from the GPS and controls application of the liquid composition based on the topological information received. Furthermore, the restrictor is remotely controlled from the vehicle cab which is not a site separate from a train consist in the rail system. As disclosed at paragraph [0048] of the present specification “a ‘train consist’ means a combination of revenue generating cars (RGC; also called rail cars), and a locomotive consist” and “a locomotive... are self-propelled”. The carrier vehicle 11 of Nelson is provided with rail gear R for moving the

vehicle 11 along the track T (see column 2, lines 37-48) therefore the vehicle cab from which the restrictor may be remotely controlled is self propelled. The vehicle of Nelson is therefore a locomotive and part of a train consist of a rail system. Provision of a restrictor that may be remotely controlled from the vehicle cab allows manual control operation from the cab by the operator (see column 4, lines 48-52). This is very different from the present invention, where the processing device is accessed remotely at a site separate from a train consist in the rail system. In fact, Nelson thus teaches away from the claimed feature that the “processing device is accessed remotely at a site separate from a train consistent in the rail system.”

Applicants submit therefore, that even if a skilled person were to combine Kuma, Clyne K. M. and Nelson they would not arrive at the present invention as claimed in independent claim 27. Claim 27 is therefore not obvious in view of Kumar in combination with Clyne K. M. and Nelson. Claims 33-39 and 41-42 are dependent on claim 27 and are therefore not obvious for the same reasons as claim 27.

Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US Patent 5,477,941), as modified by Clyne K. M. (WO01/18558) and Nelson (US Patent 5,236,063) as applied to claim 27, and further in view of Kast (US Patent 6,578,669).

Claims 28-31 are all dependent on claim 27. As stated above, even if one skilled in the art were to combine Kumar, Clyne K. M. and Nelson, they would not arrive at the present invention as claimed in independent claim 27 as the restrictor of Nelson is not a processing device that receives topological information from the GPS and controls application of the liquid composition based on the topological information received and the restrictor is remotely controlled from the vehicle cab which is not a site separate from a train consist in the rail system.

Kast teaches a lubrication system mounted on a railroad locomotive for applying a lubricant to a rail. There is no teaching within Kast of a GPS system for acquiring topological information of a rail system in real time. Instead Kast discloses a curve sensing device 114 which provides the controller 102 with information as to whether locomotive 10 is operating on straight or curved rails. Controller 102 is programmed to utilize information regarding curvature of the rail in the operation of lubrication system. Furthermore, there is no teaching in Kast that the microprocessor is accessed remotely at a site separate from a train consist in the rail system.

Therefore, a combination of Kumar, Clyne K. M., Nelson, and Kast, would not result in the present invention, and claims 28-31 are not obvious in view of Kumar as modified by Clyne K. M. and Nelson, and further in view of Kast.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US Patent 5,477,941), as modified by Clyne K. M. (WO 01/18558) and Nelson (US Patent 5,236,063) as applied to claim 27, and further in view of Gray (US Patent 6,434,452).

The Examiner states that Kumar as modified by Clyne K. M. and Nelson disclose all the structural elements of the claimed invention but fails to explicitly disclose the GPS provides the processing device with topological information regarding changes in elevation of the rail car in the rail system to determine whether or not the rail car is negotiating an inclining or declining segment of a rail track in the rail system and the processing device controls application of the liquid composition accordingly. Claim 40 is dependent on claim 27. As stated above, even if one skilled in the art were to combine Kumar, Clyne K. M. and Nelson, they would not arrive at the present invention as claimed in independent claim 27, as the restrictor of Nelson is not a processing device that receives topological information from the GPS and controls application of

the liquid composition based on the topological information received and the restrictor is remotely controlled from the vehicle cab which is not a site separate from a train consist in the rail system.

The Office Action states that Gray discloses Track Data Base integrity Monitor for Enhanced Railroad Safety Distributed Power comprising: the GPS provides the processing device with topological information regarding changes in elevation of the rail car in the rail system to determine whether or not the rail car is negotiating an inclining or declining segment of a rail track in the rail system and the processing device controls application of the liquid composition accordingly (Column 5, Lines 30-45).

Applicants submit that Gray is directed to a distribution power system for remotely controlling a locomotive. The system is used to remotely operate and apply power disputation to a locomotive particularly when there is a master locomotive and several slave locomotives that are spaced apart and negotiating different sections of the rail track. The Examiner refers to Column 5, Lines 30-45 of Gray, where it is disclosed:

In one embodiment as illustrated in FIG. 4, only the coupler sensor data 50, pre-stored digitized track database 52, and GPS data 56 are all that is needed to be fed into a control algorithm 60. The algorithm 60 will calculate the throttle and brake settings for current and pending track changes, such as inclines, declines, or contour changes, for all locomotives and display this information to, or notify the engineer. The system then includes a decision gate, step 64. The engineer 37 can either allow the system to make these changes autonomously, step 66 or the engineer may enter modified settings, step 68. In one embodiment, as further illustrated in FIG. 4, the decision gate, step 64 does not exist and the system automatically applies the determined distributed power, step 66.

There is no hint or suggestion in Column 5, Lines 30-45 of Gray that the GPS data collected provides the processing device with topological information that is used by the processing device to control application of a the liquid composition according. In fact there is no hint or suggestion anywhere in Gray of application of a liquid composition to a rail system. Instead as discussed above, Gray is directed to distribution of power to locomotives in a rail system.

Claim 40 is therefore not obvious over Kumar as modified by Clyne K. M. and Nelson, and further in view of Gray.

CONCLUSION

In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

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Art Unit: 3657

Amendment under 37 C.F.R. §1.116
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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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